the time of this periodic flow of blood from the uterus of the woman has been referred to this function. A new and more limited view of menstruation must come. The fundamental conception of a periodic activity of the reproductive system in both men and women must take its place, and the physiological processes and the attending sensory disturbances in both sexes should be referred to the fundamental sexual rhythm, not to some one small part or expression of this activity in one sex. If there be an internal secretion which generates the sexual rhythm, then it will be found not only in the female but also in the male. Menstruation in woman, with its own disturbances and the coincident functional disturbances in other organs due to the lowered general blood pressure, have been greatly exaggerated by the bad hygiene of women. Physiological congestion is being prolonged unduly until it borders on the pathological. This condition, which is favored by the upright position, has resulted from the lack of muscular development and from constricting dress, changing the type of respiration or at least seriously interfering with the descent of the diaphragm, and rendering the abdominal muscles flabby and inefficient. Bad posture [19] which tends to support the rectum favors the development of constipation and alters the support of the uterus, making displacement easier. It deprives the bowel of the favoring effect of gravity on the waste and increases the unfavorable effect of gravity on the uterus.

In the emphasis and exaggeration of this one expression of the sexual activity of woman, her efficiency has been lessened and we have lost sight of the common biological basis of life. What the race needs is not undue emphasis of the sexual characters, but better and more efficient all-round perfect-functioning human beings.

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THE RELATION OF GASTRIC HEMORRHAGE TO CHRONIC APPENDICITIS.*

By CHARLES G. LEVISON, M. D., San Francisco.

Formerly in operations upon the stomach, gastroenterostomies were frequently made notwithstanding the fact that organic disease was absent. These operations were performed in the belief that the symptoms from which the patient was suffering would be relieved; occasionally, when an operation was carried out for the relief of gastric hemorrhage that had been complicated with pain and hyperacidity, the stomach when exposed was found quite free from perceptible involvement. It was particularly in this class of cases that the anastomosis would be made even in the absence of lesion, and harm instead of benefit was frequently the consequence. The end results of these operations were so unsatisfactory, that it soon became evident that they were not to be performed without specific indications. In cases where these indications were not observed, the persistent vomiting of bile was a frequent consequence and resulted from the so-called vicious circle; besides the operation left the symptoms—pain, hyperacidity and hemorrhage—uninfluenced.

The consensus of opinion at the present time is that ulcers should be excised whenever feasible; that an operation for hemorrhage should not be performed until medical measures have proven futile, and that the thin, dilated, toneless stomach should not be made the object of surgical interference. Furthermore, when the diagnosis of organic disease of the stomach is made and is not confirmed at operation, the stomach should not be disturbed, but the abdomen should be closed if no lesion is demonstrable.

The following history will serve as a type of the class of patients referred to:

A. B., age 35 years.—There was a marked neurotic history and the patient has always complained as far back as she can remember. She has borne two children and her pregnancies have been without incident. Subsequently she developed a marked diastasis recti associated with a general visceral ptosis. She gave a history of hyperacidity of the stomach contents, pain in the epigastrium, frequent vomiting and occasional haematemesis. The stomach was distinctly dilated and the patient would vomit food occasionally that she had eaten the day before. The diagnosis seemed easy to make,—a gastric ulcer that had produced a narrowing of the pylorus and consequent stasis.

At the exploration, a thin, dilated stomach was found, but there was no evidence of organic disease. A Finney operation was performed on account of the symptoms. Immediately after the operation the patient began to vomit bile, which persisted for months to such a degree that it became necessary, one year later, to reopen the abdomen.

* Cooper College Science Club, April, 1910.

At the second operation the gastro-duodenal opening was found as it had been originally made and was fully two inches in diameter. As it was thought (this was a few years ago) that a gastro-jejunostomy might relieve the symptoms, a posterior no loop operation was performed. The condition remained as before without any relief of the symptoms, the vomiting of bile being in no wise influenced. Then a severe pain developed and a mass became evident in the left upper quadrant of the abdomen. On account of the pain associated with the tumor, that was the size of a fist, the abdomen was opened one year later. At operation the induration, which was found to be due to a thickened adherent omentum, was removed. At the time of the operation, both openings were found as they had been originally made with no tendency to contraction. The vomiting of bile has, however, persisted up to this date, although the patient is fairly comfortable at times.

I am quoting this history at length because it represents a type that is now being recognized at operation, and as a consequence, the results of surgery of the stomach are at present more satisfactory than they were in former years.

In connection with the previous mentioned class of patients, there is a condition to which attention has been called by Moynihan in a recent number of the "British Medical Journal." This article in my opinion is one of the most important publications that has appeared for some time.

In taking up the subject I can do no better than to describe the symptoms presented by the patients that have come under my observation.

Indigestion.—This is a common symptom. Belching is always present and is the result of flatulence that often appears immediately after eating. Flatus is not passed per rectum in any great quantity. The tongue is coated and the breath has a characteristic odor. Constipation is usually present. The patient seldom gives a history of peritoneal inflammation.

Pain.—Pain is usually present and is frequently felt in the epigastrium. It may not be severe. At times the pain is most marked at the left costal angle in the situation where the tenderness and pain of an ulcer of the lesser curvature is felt. Tenderness in the lower right quadrant is not always present, but the patient often states that a sensation of fullness is felt in this region, and I have seen patients rub the right side with the hand when rising from a chair and if questioned would answer that they have not touched themselves; it was evident that they rubbed themselves on account of a sensation of fullness and not on account of any pain. The pain is generally increased after exercise, as in walking, tennis playing and dancing, and it is also aggravated as a result of mental excitement and worry. It does not appear with the regularity of a duodenal ulcer but it comes on in a most capricious manner; the pain does not radiate to the back or to the shoulder.

Vomiting.—The vomitus consists of an acid sour substance and it may be small in quantity; relief is felt immediately and is probably due to a relaxing of the pyloric spasm. It is now recognized that pyrolorospasm is often the cause of pain as well as the vomiting in this class of case.

Haematemesis.—The vomiting of blood is not an infrequent symptom; at times but a mouthful or two is thrown up or as much as a basinful may be vomited.

Hyperacidity.—There are sour eructations. Hyperacidity is often found to exist; diet does not altogether relieve the symptoms, as is the case in gastric ulcer, so that the patient frequently starves himself into emaciation in the hope of relief.

Oesophagospasm.—This symptom is occasionally present and it is felt by the patient as a lump low down in the oesophagus. Difficulty in swallowing does not often accompany the spasm.

Pylorospasm.—Pylorospasm is a condition that frequently causes a dilated stomach; pain and vomiting are also frequent results of this reflex. As the subject of pylorospasm is of such importance I will avail myself of the liberty of quoting in detail from Mr. Moynihan's paper:

"On opening the abdomen of a patient whose history I have described, no flaw can be discovered in the stomach even after the most minute and most meticulous care has been expended. There is no thickening, no whiteness, no puckering, no adhesion. The stomach looks in every particular quite normal. But if it be allowed to lie quietly for inspection (and it is better to watch it while the abdominal wall is raised up, before this organ is handled) a most interesting condition is displayed. The stomach in its pyloric half is seen to be in vigorous and excited action. At the point where the vertical and horizontal parts of the stomach merge a contraction starts and spreads towards the pylorus, and at last involves all the pyloric antrum. The stomach becomes thick, contracted and pale; its muscle is evidently in a state of strained and vigorous action, and the channel through it is almost obliterated. On the cardiac side of this area of spasm the stomach is quiet, a little distended even, and shows no movement. I described this condition for the first time in 1904 in the following words: On several occasions during the last few years I have watched the stomach intently for several minutes, and have seen the onset, the acme and the gradual relaxation of a spasmodic muscular contraction in its walls. Quite gradually the stomach narrows, and the wall becomes thicker and almost white in color; when taken between the fingers the contracted area feels like a solid tumor. The spasm may be so marked as to prevent a finger being invaginated through the segment affected. The appearance presented is very striking. I have seen it in the body of the stomach and at the pylorus, but never at the fundus. As slowly as it

comes on the spasm quietly relaxes, and the stomach assumes its usual form. When this condition is seen it may be predicted that a lesion will be found in the appendix. In summing up the symptoms of this condition, the picture of gastric ulcer presented is one that should satisfy the most exacting German clinician, namely: Pain and tenderness in the epigastrium, hyperacidity and haematemesis; but when the abdomen is opened, the stomach is found to be absolutely normal and this after a most careful and painstaking examination. The exploration of the duodenum and the gall bladder are also negative, but when the appendix is examined it is found to present definite pathological changes. With the removal of this appendage, the patient is completely restored to health."

My experience has shown that patients affected with oesophagospasm have been relieved by removing the appendix, so that even the oesophagus is not beyond the reflex from appendix irritation.

In confirmation of Moynihan's obesrvations I herewith present the following history:

E. B., age 26 years. Family history negative. She gives a history of having had an ulcer of the stomach that healed under medical treatment at about the age of eighteen. About four years ago the patient began to suffer with severe pain in her stomach that appeared most often after eating. Three months later she vomited 1½ ounces of bright red blood. She was then placed upon a diet and there was no further bleeding. The pain persisted, however. She became very pale and three weeks later she was advised by Boas to go to Carlsbad, which she did; at that time she was pregnant. As there was no improvement she was sent to Wiesbaden, where her condiiton changed somewhat for the better. She then remained fairly well for some time. She was confined after a seven months' pregnancy that was accompanied throughout by persistent nausea and vomiting, but there was no blood vomited. Ever since she has been ailing; pyrosis has been marked. The symptoms of pain and acidity have always been pronounced.

She was examined by Dr. P. K. Brown, October 12, 1909. In the stool he found occult blood, which disappeared under the influence of a Lenhardtz diet. Blood was found in the stool occasionally despite all treatment. Five weeks later the patient vomited a cupful of bright red blood. She was much weakened in consequence. In the interval there were several slight hemorrhages that occurred every few days. Several weeks later the patient developed an attack of acute appendicitis which subsided after a few days. Last Christmas she had a severe hemorrhage, when she vomited a basinful of bright red blood. An examination revealed tenderness at the left costal margin that was quite severe upon pressure. A slight rigidity was also present. An examination of the stomach contents showed a hyperacidity to be present; lactic acid was absent. The diagnosis of an ulcer occupying the lesser curvature of the stomach was made with confidence.

At the operation the stomach, gall bladder and duodenum were found to be absolutely normal without any sign of organic change. The appendix was diseased and adherent and it was the only abnormal condition that was found to be present; the appendix was removed and the abdomen was closed after a few tubal adhesions were separated. The patient's convalescence was uninterrupted and she has had no disturbance whatever since the operation. Pain has left her and all her symptoms have entirely disappeared. She has not brought up any blood since the operation.

Discussion.

Dr. Philip King Brown: The point of interest in the case reported by Dr. Levison lies in the fact that not only had an ulcer been diagnosed by Boas, when she was 23 years old, but her first symptoms at 18 were diagnosed as ulcer by Rosenheim, in Germany, and, while I have no hesitancy whatever in acknowledging my own failures, it is a satisfaction to feel that I was in good company, having made the diagnosis of gastric ulcer in this case. The point of most interest is the wide range of troubles in which you get blood from the stomach as a symptom. Many of these pathological conditions resulting in hematesis have nothing to do with the stomach. It is of particular interest that Moynihan calls special attention to the relation of hemorrhage from the stomach to diseases of the appendix. There have been reports upon the same thing by Dieulafoy and also by Rosenheim, who himself recites a case of a perforated appendix in which the surgeon refused to operate, believing that the patient had had a perforated gastric ulcer on account of the vomiting of blood. The patient died and at autopsy a perfectly healthy mucous membrane was found in the stomach, but a perforated appendix was responsible for the entire trouble. In nervous people especially, they call attention to the spasm of the pylorus in connection with these cases. It is now well recognized, and I think is mentioned in the modern text books, that spasm of the pylorus occurs very frequently in appendicitis. Dr. Levison has referred to the fact that pain is very misleading. This is illustrated in our case by the fact that the seat of the pain was in the lesser curvature, and by the fact that there never were any signs whatever of a stasis in the stomach, which leads us to suppose that there was no interference with the outlet of the stomach and that the ulcer was probably in one of the more fixed parts of the stomach, the cardiac end.

I have seen hemorrhage from the stomach in connection with several other conditions. It has been reported, of course, many times in connection with gall stones, and there again the earliest reports are from Germany. Naunyn refers to hemorrhage in gall stones. It occurs very frequently in women in connection with vicarious menstruation, not always with hematesis, but in the washing of the stomach blood has been found in the stomach content, especially during the menstrual period. Here a point in the differential diagnosis lies in the fact that blood from an ulcer, even in very small quantities, is accompanied by nausea and very frequently by vomiting. The nausea and vomiting may, and usually are both absent in bleeding from vicarious menstruation. Patients so often vomit blood in gastric ulcer that it is frequently difficult to obtain blood in the stools. That was true in the case reported. The stools were examined a good many times and always for two or three days after the vomiting of blood, but it was only rarely found in the stools. The patient was on the Lehnhardtz diet without meat. She must have gotten rid by mouth of all the blood that occurred.

Dr. E. Schmoll: I think that gastric hemorrhage in connection with cases of appendicitis is very interesting. We frequently find cases where gastric hemorrhage has taken place to such an extent that a diagnosis of gastric ulcer has been made. I remember three or four cases in which I advised operation for gastric ulcer and no gastric ulcer was found. One woman had had repeated hemorrhages over a period of ten years. At the time I was consulted she had vomited about 2½ liters of blood within three days and was absolutely exsanguinated, and the surgeons had refused to operate because of the low hemoglobin. She was put on the Lenhardtz treatment and recovered very nicely, gaining about 20 pounds. Two or three months after this we advised operative procedure, as we thought that the ulceration had lasted too long to heal. A laparotomy was performed, but no evidence of ulceration was found. A gastro-enterostomy was performed without any return of the hemorrhage during the last three years. I recently saw a case with Dr. Stillman in a girl about 22 or 23, who had had re-

peated hemorrhages for the past ten years. She had been on the Lenhardtz treatment and her history had been published as one of the successful cases treated by the Lenhardtz method. Three or four months ago she again had a hemorrhage and the symptoms were typical of gastric ulcer; we advised operation. A small thickening in the fundus of the stomach was found; all the glands along the curvature were enlarged and there were some adhesions. However, the mucosa was not thickened. The Finney operation was performed and the symptoms disappeared. Such cases show that we should be more careful in our diagnosis of gastric ulcer, and I think that it should only be diagnosed when the symptoms are absolutely classical. Besides hemorrhage there should be a distinct history of pain with distinct relation to food and position of the patient. I have found it to be one of the most reliable signs of ulceration if turning a patient to the opposite side the pain diminished almost immediately. Most patients can sleep on the left side when they cannot lie on the right side at all.

Dr. E. Rixford: Dr. Brown said that gastric hemorrhage in connection with appendicitis is not an unusual ocurrence, but it seems to me, judging from a considerable experience, that it is very rare. I have yet to find in my own practice a single case in which there has been anything at all comparable to gastric hemorrhage in connection with appendicitis. Of course, since Moynihan's article and the work of Mayo and a good many other abdominal surgeons, the evidence of pyloric spasm as indicating something wrong lower down in the bowel has become rather full, and we are inclined to look upon it as a physiological protective process. That such a spasm may be sufficiently vigorous to cause bleeding from the mucous membrane is perfectly possible and probably there is something more to it than that. There has recently been some work done with regard to congestion of the base of the right lung as an early symptom in appendicitis. One of our own students here recently had a gangrenous appendix and when examined by the clinicians it was a question whether his trouble were not really a beginning basal pneumonia of the right lung. There was distinct evidence of congestion which all cleared up after the removal of the gangrenous appendix. I have had one case in my experience which might be mentioned in connection with this, though perhaps the connection is rather remote. The patient was brought to the hospital suffering from symptoms of renal or ureteral calculus; there was hematuria and localized pain, with very little, if any, muscular spasm on the right side of the abdomen. The diagnosis of renal calculus seemed justifiable. Examination and washing out of the bladder by a prominent specialist failed to find any calculus. His opinion was that the bleeding was due to a calculus in the ureter, probably located at a point where the pain occurred. Incision over this region by myself showed a very much inflamed appendix, not lying very far from, though not adherent to the ureter. Removal of the appendix was followed by a complete subsidence of te hematuria. Whether these phenomena of congestion have any relation with the phenomenon of bleeding I am not prepared to state. The thing is certainly suggestive.

Dr. W. E. Garrey: We know the effect of absorption of toxins on the condition of the cells of the kidney and the appearance of blood in the urine; it might be well, in the cases of the type under discussion, to have a histological examination made of the mucosa of the stomach to determine whether or not there is any pathologic change in the secreting cells of this organ. In connection with the recent work done on internal secretions, substances have been found along the whole alimentary tract which have an effect upon the whole metabolism of the body. I recently saw some of the results of work done by Lewis and Mathews on the duodenum, showing that death resulted from removal of certain parts of this structure, but had no relation whatever to the surgical operation itself other than the removal of the secretions. The death took place seven days after the operation with definite toxic symptoms which these workers attributed to the removal of a necessary internal secretion. A considerable question has been raised as to the possibility of the appendix having such an internal secretion. We know there are substances which are secreted in the upper portion of the alimentary tube not found in the lower part, and vice versa—a consideration which we ought to bear in mind as possibly related to the conditions reported by Dr. Levison. Other facts have been brought out by Moynihan's observations on the movements of the stomach, which are the first clinical corroboration of Cannon's experimental work, in which he shows that the peristaltic movements of the stomach begin toward the antrum and continue through the pylorus. The antrum is the most motile part of the stomach and this is the only clinical report of this fact I have seen.

A METHOD FOR THE DETERMINATION OF THE PUS IN DISEASES OF THE ACCESSORY CAVITIES OF THE NOSE.*

By HENRY HORN, M. D., San Francisco.

When a patient comes to us with a fever, an acute frontal headache, a forehead which is exquisitely tender to pressure and an examination of the nose reveals thick yellow pus in the region of the middle turbinate, we can say with a fair degree of certainty that we are dealing with an acute inflammation of the ethmoid cells and the frontal sinus.

When we have a patient who complains of a purulent discharge from one side of the nose, transillumination of that side gives a black shadow and the other side is perfectly clear, and an examination of the nose shows pus coming down over the middle of the inferior turbinate, we can also with a fair degree of certainty diagnose an empyema of the antrum of Highmore on that side.

Suppose, however, we have a patient who complains of a chronic nasal and pharyngeal catarrh, indefinitely located headaches, dyspepsia, and a general run-down condition, and we can discover no tenderness over the frontal region. We examine the nose and note nothing of any importance. Perhaps a few crusts, a little atrophic condition of the mucus membrane, but no pus, and no swelling or discharge of any kind.

Less than five years ago a diagnosis of chronic catarrh would have been made, and the patient would have been sent away with a prescription for a nasal spray. Perhaps we might have had our doubts as to the accuracy of our diagnosis, but repeated examinations would have only revealed exactly the same conditions. We would, in other words, have reached the limits of our resources. Today we are in an entirely different position, and the help has come to us largely through the use of negative pressure or suction.

An ocular demonstration is what we have when we make a successful diagnosis by means of suction. We not only see the pus ourselves, but can show it to the bystander. Many a "doubting Thomas" have I brought to the operating table, when I could demonstrate to his own sense of smell the foulness of the pus sucked from his own nose.

The method of diagnosis which I will show to

* Read at the Fortieth Annual Meeting of the State Society, Sacramento, April, 1910.